

Dutch politicians' use of cost–benefit analysis

Niek Mouter¹

Published online: 26 April 2016

© The Author(s) 2016. This article is published with open access at Springerlink.com

Abstract 28 Dutch politicians and 10 top-level civil servants were interviewed about the way Dutch politicians use cost–benefit analysis (CBA). Various types of use were identified. Politicians use CBA: (1) When forming their opinion about the desirability of transport projects; (2) As political ammunition (opportunistic use); (3) To make themselves and their decisions look more rational (symbolic use). None of the politicians stated that they solely base their judgment on CBAs. Politicians mention seven barriers that hamper the use of CBA when forming their opinion: (1) The process of forming an opinion is trivial; (2) Politicians prefer to form their opinion based on conversations rather than on reading reports; (3) Politicians don't trust CBA's impartiality; (4) Politicians disagree with normative choices made in CBA. An example of such a normative choice is that CBA attaches an equally large weight to everybody's utility changes. (5) Politicians think that CBA's explanatory power is limited; (6) Politicians receive CBAs too late; (7) When there is plenty of money, politicians care less about a project's social profitability. Members of Parliament identified barriers 3 and 6 as the most important barriers. They regard publishing CBAs one or two months before a debate as the most auspicious solution for rectifying these barriers. An interesting observation is that no barriers for the opportunistic and symbolic use of CBA by politicians were identified. Hence, it can be concluded that it is highly likely that when politicians receive CBAs for transport projects, they will use the CBA in an opportunistic and symbolic way, but politicians will not necessarily use CBA when forming their opinion.

Keywords Cost–benefit analysis (CBA) · Transport appraisal · Transport planning · Decision–making process · Knowledge utilization

✉ Niek Mouter
n.mouter@tudelft.nl

¹ Faculty of Technology, Policy and Management, Transport and Logistics Group, Delft University of Technology, Jaffalaan 5, 2628 BX Delft, The Netherlands

Introduction

Cost–benefit analysis (CBA) is a widely used economic appraisal method to support the decision-making process for transport projects in most western countries (e.g. Mackie et al. 2014; Naess et al. 2014). The widespread application of CBA explains the voluminous literature examining the method. The literature scrutinizes substantive improvements of the CBA (e.g. Mackie and Preston 1998; Mouter et al. 2013a), amongst other things. Moreover, various studies showed that no correlation exists between political decisions and CBA results (e.g. Eliasson and Lundberg 2012; Eliasson et al. 2015). There is relatively little empirical research scrutinizing the way politicians—the end users of CBA—use the information provided by CBAs when evaluating the desirability of a transport project. Notable exceptions are Nyborg (1998) who analyzed how 16 Norwegian Members of Parliament (MPs) use CBA and Sager and Ravlum (2005) who interviewed Norwegian MPs in three consecutive parliamentary processes in 1995, 1997 and 2001. Nyborg (1998) concludes that most politicians found the CBA useful as a screening device to pick projects requiring closer political attention, but few seemed to actually use it to rank projects. Moreover, Nyborg establishes that politicians use CBA in an opportunistic way (only when the study supports their conclusions). Sager and Ravlum (2005) conclude that there are strong indications that Norwegian politicians make decisions first and only look at the CBA results afterwards. However, Sager and Ravlum (2005) argue that the institutionalization of CBA has symbolic value for politicians, since the search for and processing of information may itself send out signals that will enhance the status of the political body. Disclosing this information symbolizes the ability and legitimacy of decision makers and the political enterprise will gain more respect from the public when politicians pretend to make decisions in a proper way by exhibiting expertise and using generally accepted information. Since the data analyzed by Nyborg (1998) and Sager and Ravlum (2005) were gathered 15 to 20 years ago in one single country (Norway), it is worth examining how politicians use CBA in further research. This study analyzes how politicians use CBA in another context, this being the Netherlands, by interviewing 28 politicians and 10 top-level civil servants. The remainder of this paper is organized as follows: “[Literature on the use of research in policy making](#)” section provides a brief discussion of literature about knowledge utilization; “[Methodology](#)” section outlines the methodology; “[Position of cost-benefit analysis in the Dutch planning process](#)” section provides a brief description of CBA’s position in the Dutch planning process for infrastructure projects; “[Politicians’ use of CBA when forming their opinion](#)” section presents how politicians use CBA when forming their opinion; “[Barriers hampering politicians’ use of CBA when forming their judgments](#)” section discusses barriers hampering the use of CBA by politicians when forming their judgment; “[Use of CBA as political ammunition](#)” outlines how politicians use CBA as political ammunition; “[Symbolic use of CBA](#)” section discusses the symbolic use of CBA by politicians. “Solutions for enhancing the use of CBA when forming an opinion” section presents and discusses the solutions suggested by politicians to enhance their use of CBA when forming their opinion; “[Discussion](#)” section provides a discussion.

Literature on the use of research in policy making

The main discussion in literature about knowledge utilization is centered on four types of knowledge use, these being: instrumental use, conceptual use, opportunistic use and symbolic use (e.g. Beyer and Trice 1982; Amara et al. 2004). Weiss (1977) notes that at the

end of World War II, program evaluators and university researchers were expecting that their findings would be used instrumentally, which she defines as a direct and immediate implementation of the recommendations emanating from a study in a demonstrable way. Several scholars (e.g. Feldman and March 1981; Knorr 1977; Weiss 1977) note that research is mainly used for purposes other than instrumental use. They observed that research is used for general enlightenment, to rethink comfortable assumptions and for changing the ways of thinking about an issue (conceptual use). Conceptual use implies that research influences action, but in a less specific, more indirect way than instrumental use. Results of studies can gradually change the focus of the debate and/or accelerate changes in opinions. Moreover, the use of research as political ammunition was observed (opportunistic use) by several scholars (e.g. Albaek 1995; Lindblom 1965) and other scholars (e.g. Knorr 1977) observed that knowledge was used to improve political reputation and to gain or maintain power (symbolic use).

Methodology

28 politicians who participated in the decision-making process around transport projects in the period 2003–2014 were interviewed for this study: 4 former Ministers or Undersecretaries of Transport or Finance (from now on: executives), 10 Members of Parliaments (MPs), 12 former MPs and 2 Deputies of Transport of large provinces. Moreover, 10 top-level civil servants from the Ministries of Transport and Finance were interviewed (1 secretary-general, 4 director-generals, 3 directors and 2 political assistants). The main argument for interviewing the bureaucrats is that they witnessed how (several) executives used CBA in their decisions.

In the interviews, respondents were asked to talk, about four topics: (1) How do politicians use CBA? (2) To which extent do politicians use CBA in forming their opinion? (3) What explains why politicians assign a lot of (or little) value to CBA in forming their opinion? 4) What improvements can be introduced to affect this use in a positive way? The interviews were transcribed and coded. The option of full anonymity was offered to respondents, since some respondents were only willing to participate under this condition. To safeguard full anonymity all respondents are denoted as female (her or she). To enhance the reliability and the tractability of the observations and conclusions of this study, respondents were asked whether they would agree to the publication of the summary of their interview on an open-access website.¹ Another academic verified the reliability of the coding of the 10 interviews which were not published on the website and 5 randomly selected interviews that were published on the website. This academic detected potential interviewer bias with respect to one code, which will be discussed later on in this paper.

Although this study gives a good insight into the use of CBA by Dutch politicians in the period of 2003–2014, the sample is not large enough to draw any firm quantitative conclusions from this study like: ‘more politicians stated that they use CBA for purpose A than purpose B, hence CBA is used more for purpose A than B’. Another reason why it is tricky to draw such conclusions is that certain topics were discussed at length with some respondents, while there was no time to discuss these issues with other respondents, since some interviews were interrupted by a respondent receiving an important phone call, amongst other things, and the duration of the interviews varied between 20 and 120 min. Hence, this study should

¹ The summaries of 26 interviews with politicians and 2 interviews with a top-level civil servant are published on the website: www.mkba-informatie.nl.

be regarded as an inventory of: (1) The way CBA is used by Dutch politicians; (2) The barriers which hamper politicians to weigh CBA in their desirability judgment; (3) Solutions for enhancing the use of CBA by politicians when making their desirability judgment. Further research should reveal whether the results hold in a more general context.

This paper investigates politicians' use of CBA, which implies that this paper focuses on the stage in the decision-making process for infrastructure projects in which the CBA is disclosed to politicians. For the lion's share of infrastructure projects the CBA is disclosed to Parliament when the minister underpins her decision about 'the preferred alternative' with a CBA (see "[Position of cost-benefit analysis in the Dutch planning process](#)" section for more detail). In contrast to MPs, executives can receive (a draft of) a CBA report well in advance. Only in exceptional cases is the CBA sent to MPs at an earlier stage (e.g. the proposal for a high-speed rail between Amsterdam and Groningen). Mouter et al. (2013b) conclude that civil servants sometimes use CBA in an early stage of the Dutch planning practice to assess and optimize project initiatives. However, the use of CBA by actors other than politicians is not investigated in this study.

Position of cost–benefit analysis in the Dutch planning process

The aim of this section is providing the reader with information about CBA's position in the planning and decision-making process for infrastructure projects in the Netherlands, which enables readers who are not familiar with the Dutch planning process to put the results of this study in the right perspective.

The first phase of the Dutch planning process for spatial-infrastructure projects in which the National Government is involved is the 'initiative phase'. In this phase, the minister (assisted by civil servants) discusses which challenges should be tackled with politicians from (five) regions. Since every idea is unique and has its own ripening process, no formal requirements are imposed on planners and politicians during the 'initiative phase' (Ministry of Infrastructure and the Environment 2010). If both the minister and the regional politicians agree that a challenge is of major importance, they mutually agree that a project should proceed to the 'exploration phase'. A project can only enter the 'exploration phase' when an allocation of budget from the Infrastructure Fund to the project is 'in sight'.

In the first year of the 'exploration phase' a thorough problem analysis is carried out and solutions are generated by a project team of civil servants who maintain close contact with stakeholders and citizens. At the end of the first year of the 'exploration phase', three potentially favorable alternatives are selected. Next, the effects of the three alternatives are evaluated in a CBA and an Environmental Impact Assessment (EIA). In the Netherlands, a lively review culture exists for CBAs that are carried out (Mouter 2014). The extent to which CBAs have followed the standardized Guidelines (e.g. Romijn and Renes 2013) is verified by institutes that are part of or affiliated with the Ministry of Infrastructure and the Environment and in some cases by the Netherlands Bureau for Economic Policy Analysis (Mouter 2014). Informed by the studies the minister selects one 'preferred alternative' in consultation with the regional politicians. It is obligatory to announce this 'preferred alternative decision' to the Parliament. Moreover, it is obligatory to disclose the reports underpinning this decision to Parliament examples being the CBA and the EIA. Every year there are two debates in which the minister has to defend her preferred alternative decisions in Parliament (from now on: debates on the National Program for Infrastructure Projects). There is no formal rule about the number of days/weeks/months before the debate that research reports such as the CBA should be sent to Parliament.

When Parliament ratifies the minister's preferred alternative decision, budget from the Infrastructure Fund is allocated to the project. It is also possible that Parliament selects a different solution than the minister's 'preferred alternative' or a 'no go' decision is made. The (non) ratification of the minister's preferred alternative decision can be considered as a definitive decision about the budget allocated to the project.

It can be concluded that (the role of CBA in) the Dutch context differs from countries such as Sweden and Norway. In these countries CBA is formally applied to rank large numbers of investments against each other (see Eliasson and Lundberg 2012). Moreover, Eliasson et al. (2015) explain that the Swedish Transport Administration and the Norwegian Road Administration make a publically available proposal of projects that should be included in the National Plan for infrastructure Projects. Hence, for these countries it is possible to make a clear distinction between civil servants' use of CBA and politicians' use of CBA, whereas it is difficult to identify how political decisions in the Netherlands are influenced by civil servants. From the interviews with top-level civil servants, it can be seen that in the Dutch context, the influence of civil servants on the political decisions varies, depending on the minister. Some executives are very open to the ideas of civil servants, whereas other executives primarily expect that civil servants help them with realizing their goals.

Politicians' use of CBA when forming their opinion

None of the politicians participating in this study argues that they base their judgment about a project's desirability exclusively on the CBA. However, from the interviews with executives and top-level civil servants it can be seen that Ministers of Finance often use CBA in an instrumental way ("the CBA is negative so we should not approve this project"). When Executives of Transport and MPs use CBA when forming their opinion, they use it in a conceptual way. The CBA is at best one of the factors which influences their judgment.

In the interviews, politicians state that they use CBA when forming their opinion about: (1) the desirability of a specific transport project; (2) selecting the best alignment of a transport project; (3) prioritizing transport projects.

Most politicians interviewed cannot mention situations in which a CBA changed their viewpoint about a project's desirability from positive to negative or vice versa. Also the civil servants had difficulty recalling such situations. Different explanations were provided for why this was so. Firstly, politicians claim that it can happen that they have already made a decision regarding a project before a CBA is produced. Secondly, politicians supporting road projects state that these projects almost always have a positive CBA result, which means that CBA only endorses their viewpoint. Thirdly, some politicians believe that the outcome of CBAs can easily shift from positive into negative and vice versa as a result of the inherent uncertainties in CBAs. Some of these politicians state that a CBA can only influence their opinion when the result is severely negative. Politicians emphasize that CBA results can gradually change the way of thinking of the political enterprise about the desirability of a project. For example, one MP states that a negative CBA can lead to a lot of questions, it could then lead to a decision to reconsider the political party's viewpoint when the questions are not answered in a satisfactory way, and in the end it could even lead to a change of viewpoint.

When politicians use CBA in forming their standpoint, it is most likely that the results affect their viewpoint about the desirability of different alignments of a specific transport project. Especially when a politician supports a project but does not have a strong preference for one of the alternatives, there is a chance that the CBA affects the desirability judgment of the politician.

Respondents argue that CBA is rarely used to rank projects against each other. However, they mentioned an important exception. Several respondents confirmed that in 2010, during the major budget cutbacks in the Netherlands—also known as ‘the broad reconsiderations’—which were the result of the financial-economic crisis, some projects were terminated, based on their negative CBA score.

Barriers hampering politicians’ use of CBA when forming their judgments

The extent to which politicians use CBA when forming their judgment about the desirability of (alignments of) transport projects differs significantly between politicians. While some politicians do not use CBA at all when forming their opinion, others argue that CBA is a very important factor in their judgment. Politicians mention seven barriers which can hamper their use of CBAs.

Barrier 1: the process of forming an opinion is trivial

Since politicians are very busy people, they have to be highly selective about reading research reports. Hence, the probability is relatively low that they consult a CBA report for forming their judgment when they consider forming their opinion about a project a trivial task which can occur for various reasons. One reason mentioned by respondents is that the merits of a project clearly (do not) match the ideology of the political party. For instance, the probability is relatively low that the opinion of a member of the Green Party is influenced by a CBA when a transport project breaches a nature reserve, since the politician will oppose the project regardless the CBA outcome. Another occasion in which politicians can consider a decision task too trivial to consult a CBA when forming their opinion is the inclusion of a project in the coalition agreement. Several politicians argue that they do not even read the CBA report when their viewpoint regarding a project is already established. One politician illustrates this as follows: “Why do your homework when you already know what you think about a project or what you should think about a project?”

Contrastingly, when the decision on a transport project is considered to be a ‘hard case’, the probability that politicians will consider the CBA results seems to be higher. They argue that this, amongst other things, occurs when some of the consequences of the project are desirable and others are undesirable from the perspective of the political party.

Barrier 2: politicians prefer to form their opinion based on conversations rather than on reading reports

Respondents remark that a politician’s personality influences the extent to which they use CBA results in their judgments. Some politicians like to gather information by reading reports about a topic before they make up their mind, whereas other politicians prefer to

obtain information about a project's merits through conversations. Respondents make a distinction between 'readers' and 'listeners'. 'Readers' (some respondents also call these politicians 'file eaters' or 'technocrats') tend to use research reports such as CBAs when forming their opinion, but this does not imply that they simply go along with the CBA results without any criticism. 'Readers' are inclined to assess the assumptions made by the CBA analysts themselves. If they disagree with an assumption there is a chance that they disregard the information in the CBA. 'Listeners' tend to decide on the desirability of the project after having conversations about the merits of the project with other politicians, stakeholders and experts. In these conversations they ask questions to elicit the pros and cons of a project, amongst other things. Based on the information they gather in these conversations, they make up their mind about the desirability of a project. One politician who considers herself to be a 'listener' states that she admires the MPs who aim to read reports such as CBAs, but at the same time she regards being a 'reader' as very ineffective: "As an MP you do not have the time to read CBAs and research reports for all infrastructure projects. If you do have the time, the question is whether you can comprehend the methodology sufficiently and if you can comprehend it the question is whether you can trust the impartiality of the study. Hence, it is far more effective to build a network of experts around you who can inform you." It should be noted that despite the fact that MPs and executives who are 'listeners' rarely read CBA reports, their opinion can be influenced by CBA results through conversations with people who did study the reports.

Finally, it was observed that all politicians who were trained as economists or were employed by institutes such as the Ministry of Finance before they became an MP or executive can be classified as 'readers'. However, it should be noted that several non-economists considered themselves to be 'readers' as well. For instance, one MP explained that the mere reason why she read an extensive amount of reports to prepare herself for the debate on the National Program for Infrastructure Projects was that she wasn't an excellent debater. She noticed that the result of being a 'reader' was that colleagues perceived her as 'a person who always knows what she is talking about', which enhanced her political influence.

Barrier 3: politicians don't trust CBA's impartiality

Politicians who express that they assign an important value to CBA when evaluating the desirability of a transport project, frequently also state that they feel that CBAs are carried out in an impartial way. On the other hand, politicians who state that they do not assign much value to CBA results are often the same politicians who argue that they distrust CBA's impartiality. In the interviews, three levels of distrust are identified. Firstly, there is a group of politicians who are convinced that CBAs are deliberately manipulated. One politician illustrates this as follows: "I am convinced that under the responsibility of the minister, or possibly ordered by the minister, CBA analysts have been dictated to provide (un)favorable outcomes for a project the minister (did not) pursue(d)".

A second group of politicians has more trust in CBA's impartiality. However, these politicians believe that CBA analysts implicitly make political choices while carrying out a CBA which influences (the communication of) the results. Some examples the politicians mention are the following types of 'implicit influencing':

- The institution who orders the CBA (in most cases the ministry) is also responsible for delivering the information which is used in CBAs. If this institution has a preference

for a particular (alignment of a) transport project, it is highly probable that the delivered information is positive about the project;

- All CBAs for large transport projects are supervised by a steering group in which civil servants from the institution that commissions the CBA participate. Important assumptions are made in interplay between CBA analysts and the steering group. The steering group can influence assumptions and thus the outcomes of a CBA.

The third group of politicians distrusts CBA's impartiality a little. However, these politicians argue that despite their high level of trust, they verify the plausibility of the assumptions made in CBAs themselves or ask confidants to verify the CBA for them.

Although it is not the purpose of this study to draw any quantitative conclusions, it is interesting to observe that the second group of politicians is rather large compared to the first and third group. Relatively, a large number of politicians believe that CBAs are implicitly influenced. Moreover, it is striking that four out of five politicians who had experience with CBA or similar quantitative methods as an academic or a consultant before they became MP or (national) executive can be classified in this second category of politicians. These 'former researchers' stated that, as a result of their experiences with CBA and affiliated quantitative methods, they assign relatively little value to CBA outcomes in their political life, since in their experience they found that assumptions are implicitly influenced by the political beliefs of the analyst and/or the political interest of the commissioner of the study. One 'former researcher' found that particularly the effect estimations, which are the foundation of a CBA (e.g. hours of travel time saved) can be influenced by 'shifting the buttons in the model'. The respondent illustrates this with an example from her own experience in which she had to assess the effects of an infrastructure project. The first model run produced implausibly low values. Subsequently, the analysts adjusted some assumptions and provided new model estimations. The second model run produced unrealistically high values. The outcomes were discussed with a group of civil servants and some decisions were taken. The respondent felt that this group's decisions were affected by the travel experiences of the individuals: "an analyst who travels by train makes a different choice than a car driver who detests public transport". This politician thinks it is a problem that citizens and stakeholders expect that a politician will follow the outcomes of a study which is based on arbitrary—and politically loaded—choices made far out of a politicians' sight.

It is interesting to note that although politicians disagree on the extent to which CBA results are manipulated, there is wide consensus among politicians that the tone and the selection of the conclusions of the CBA are influenced by civil servants operating under the responsibility of the minister. Favorable conclusions are highlighted in the executive summary, whereas controversial assumptions and unfavorable conclusions are concealed somewhere in the report. According to the politicians, it is especially the steering group supervising the CBA that reflects on the way conclusions are highlighted and phrased in the report.

Barrier 4: politicians disagree with normative choices made in CBA

Some politicians argued that they assign a lower value to CBAs when making a judgment because they do not endorse the fundamental principles of CBA methodology. Some of these politicians note that as a result of the discrepancy between the premises of CBA and their belief system projects which coincide with their own belief system score relatively poorly in CBAs. One politician argues that using CBA when assessing transport projects

implies that one steps into a neo-liberal frame in which one is only busy with questions like: ‘can we cut costs?’ and ‘can we make more profit than we do now?’ In contrast, her political view is that the Government should strive to preserve a living standard when citizens already derive well-being from their current living standard. To illustrate, she believes that the coherent Dutch rail network is valuable from a societal perspective because people not possessing a car can easily travel from A to B. This should be an incentive for preserving the network in its current state even when some of the elements are not profitable from a consumer perspective.

Several politicians disagree with the normative choice made in CBA that an equally large weight is attached to everybody’s utility changes. These politicians argue that as a result of this choice, in general, transport projects in the urbanized Randstad perform better in CBAs than projects in the rural areas of the Netherlands, since more people benefit from transport projects in the Randstad. According to the politicians, following CBA results would lead to a great number of investments in infrastructure projects in the Randstad and only a marginal number in the rural areas. One politician notes that it is the other way around for hazardous facilities. If one makes CBAs for power plants and CO₂ repositories, the result will be that all hazardous facilities are shifted to the rural areas because they can do harm to more people in the urbanized Randstad. Several politicians think that for reasons of distributional equity, infrastructure projects—and other positive Government policies—should also be implemented in the rural areas albeit low CBA scores: “tax payers do not only live in the Randstad, but also in the rural areas. Hence, people in the rural areas should also receive some beneficial projects in return for their taxes”.

Barrier 5: politicians think that the explanatory power of CBA is limited

Politicians mention the limited explanatory power of CBAs as a reason why they assign relatively little value to CBAs. Some politicians are of the view that effects of transport infrastructure projects are difficult to predict, since it is hard to predict how human beings and companies respond to a transport project (especially in the longer run). Politicians argue that the explanatory power is especially limited for projects pursuing (uncertain) long term strategic effects, like catalyzing economic development in a specific area. To illustrate their argument, they mentioned examples of projects which brought prosperity to the Netherlands even though this positive effect could not be assured beforehand. The essence of the politicians’ argument is that the investment strategy of a country will be too conservative to compete with other European countries should one systematically follow CBAs. The politicians argue that when one aspires to beat the competition one should invest in conservative projects but also in ‘high risk high pay off’ projects, despite poor CBA scores.

There are also politicians who believe that it is more cost-effective to spread investments all over the country and safeguard that people have a reason to stay in the rural areas. These politicians believe that following CBAs that disregard ‘second-order effects’, and thus have a limited explanatory power, in decision-making is a risky strategy. Their line of reasoning is as follows: when one follows CBA results, the consequence will be that one invests heavily in the Randstad and marginally in the rural areas; as a result, the attractiveness of the Randstad enhances compared to the rural areas, which leads to reallocation of people, amenities, economic activities and traffic from the rural areas to the Randstad; this will lead to more congestion in the Randstad and a need for more (expensive) infrastructure projects. According to the politicians, this process will repeat itself and is a very costly strategy. One politician articulates this as follows: ‘the consequence of

following CBA results is that congestion problems in the Randstad will only magnify and livability in the rural areas will decrease, which is not very CBA-proof in my opinion'. Hence, these politicians think that investing intensively in the Randstad as a result of CBAs pointing in this direction, is not only unfair (see barrier 4) but also inefficient.

Barrier 6: politicians receive the CBA too late

MPs in particular state that it is difficult or even impossible to use CBA results when forming their opinion about the desirability of a transport project, when they receive the CBA only very close to the debate in which decisions are made regarding the transport project.² When they receive the CBA long before the debate on the National Program for Infrastructure Projects, it is more likely that they will use this information when determining their viewpoint. MPs mention two reasons why a CBA which is published very close to a debate will have at best a marginal impact on their viewpoint.

Firstly, politicians state that they need time to verify the CBA's quality and impartiality. Politicians prefer minimizing the probability that they determine their viewpoint based on incorrect or colored information. MPs argue that they employ different verification strategies before they decide to assign weight to a CBA when forming their viewpoint. The majority of politicians asks confidants in their personal network to do a verification. One respondent claims that she assesses the credibility of CBAs through monitoring the public debate around a CBA in the media. Several politicians state that they prefer to ask substantive questions to the CBA analysts—directly or via the minister—to assess the merits of the CBA.

A second argument which is brought forward by politicians to underpin that it is unlikely that they assign weight to CBAs when they receive the study a few days before the debate, is that they have to coordinate their viewpoints with members of their political party and sometimes also with other politicians. Although MPs emphasize that the process of forming opinions regarding transport projects is a continuous process, this process accelerates prior to the debate in which the National Program for Infrastructure Projects is discussed. It is not really clear at which point in time the MP's preferences, which will be articulated in the debate, are set in stone. However, a politician from a large party states that 5 weeks before the debate, the MPs of her party who are part of the 'infrastructure committee' already try to reach a consensus and make a proposal which will be discussed within their political party 3 weeks prior to the debate. This proposal also includes deals with other political parties ("if you vote for our project we will vote for your project"). After the consultation within the political party, the preferences, which will be articulated in the debate on the National Program for Infrastructure Projects, are ratified. Hence, in theory it is possible that the preferences of the political party are reconsidered when a CBA is published within 3 weeks before the debate. However, in practice, the probability that preferences will be reconsidered after the preferences are ratified in the political party is negligible. Hence, a CBA can have more impact on MP's viewpoints when the study is published before politicians start to form their definite viewpoints. In the Dutch practice, it happens regularly that CBAs are published very close to the debate. For instance, for the

² Several respondents mentioned this spontaneously. However, the second coder observed that it is highly probable that some of the respondents only mentioned this barrier because the interviewer asked about it ("interviewer bias"). For instance, the interviewer asked: 'when a CBA is published 1 week- or less-before the debate, can this study affect your viewpoint?' Respondents then stated that CBA cannot have any influence one week before the debate, but in some interviews there were indications that the politicians would not have used a CBA even when the CBA was disclosed two months before a debate.

two major infrastructure projects which were decided upon in 2014 (Ruit Eindhoven, 700 million euros and Ring Utrecht, 1 billion euros) the CBAs were published one working day and three working days, respectively, before the debate.

Barrier 7: politicians care less about the social profitability of a project when there is enough money

It is noteworthy that politicians who served as MP or national Executive of Transport during or after the budget cutbacks, which were the result of the financial-economic crisis (period 2010–2014), seemed to make more use of CBA results than their counterparts who served before the crisis (especially the 2003–2007 period). Moreover, four top-level civil servants who worked close to Ministers of Transport in the period 2003–2014 endorsed this observation. One of these civil servants started her interview spontaneously with a remark that CBA plays a larger role when budgets are under pressure because it is necessary to make sharp choices. According to this civil servant there is more room to ‘play a little bit with the money’ when there is enough money.

Discussion of the seven barriers

To give the reader an indication of which barriers politicians consider to be most important, it is useful to remark that MPs identify barriers 3 and 6 in particular as decisive barriers. When MPs don’t trust CBA’s impartiality and/or when they receive the CBA too late, the probability that they will use CBA results in their judgment is negligible. Contrastingly, barriers 3 and 6 were not mentioned as key barriers hampering the use of CBA by executives. One civil servant states that the timing of the CBA does not seem to be a barrier for the use of CBA by executives, since they can receive (a draft of) a CBA report (verified by their civil servants) well in advance. Barriers 2, 4, 5 and 7 were all mentioned as ‘very important’ by one or more interviewed national executives or civil servants reflecting on the use of CBA by their superior(s).

Use of CBA as political ammunition

Many politicians argued that it was more likely that they use CBA as ammunition in discussions with other politicians than as an input for their desirability judgment of transport projects. This section first discusses politicians’ use of CBA in political debates and subsequently, how they use CBA in political bargaining processes behind the scenes.

The use of CBA in political debates

Many politicians argue that they use CBA in an opportunistic way in political debates. When the CBA does not support their opinion they will criticize the study and they emphasize the importance of CBA when the results support their opinion, even when they did not use CBA in forming their opinion at all. The late publication of the CBA and the lack of trust in its impartiality are not considered to be barriers for using CBA as political ammunition. Executives use CBAs for rationalizing decisions and to ‘kill’ the political debate. In these occasions, the executive reasons as follows: (1) All effects raised by the

political opposition are analyzed in the CBA; (2) The CBA is positive (negative) about the project; (3) Hence, we approve (reject) this project.

Several respondents state that the CBA is used as political ammunition in almost every debate about road projects, since road projects are almost always politicized. In general, right-wing parties support road projects and use CBA as political ammunition when the result is positive. Left-wing parties generally oppose road projects and therefore use a negative CBA as political ammunition. According to respondents, debates about rail projects are relatively non-politicized. As a consequence, very often a negative CBA is not used as ammunition in a political debate about a rail project because both right-wing and left-wing parties support the project.

Executives explain that a negative CBA for a project they have to defend in Parliament implies that preparing their argumentation requires more effort. One executive notes that the result of a negative CBA is that you have to come up with other arguments to underpin why you want a certain project. Two executives argued that they coordinated their argumentation with the argumentation of the MPs representing the political coalition when the CBA of a project they wanted to approve was negative, since they anticipated that the political opposition would heavily attack the approval of the project during the debate. Although there are some politicians who argue that executives have to put more effort into defending a project with a negative CBA, there are also respondents who experience that CBA makes life easier for executives. According to these respondents, executives can use CBA as a single argument when the study supports their opinion and executives can use some standard arguments to defend the approval of a project despite a negative CBA (e.g. “if we had used CBA in the past, we would never have built projects which brought prosperity to the Netherlands such as The New Waterway and the Erasmus Bridge”, “politicians uncritically following CBAs care about numbers, but I care about people”, etc. etc.).

The use of CBA in bargaining processes behind the scenes

Politicians and civil servants argued that CBA is also used in bargaining processes behind the scenes. A positive CBA strengthens the position of advocates of a project in bargaining processes and the position of a project’s antagonists is strengthened by a negative CBA. This section discusses five bargaining settings in which CBA is used.

Firstly, the Minister of Finance uses a negative CBA to kill a project proposed by the Minister of Transport and vice versa: the Minister of Transport uses a positive CBA to convince the Minister of Finance. Note that in the Netherlands the Minister of Finance is not involved in the decision-making process for all infrastructure projects. The Minister is primarily involved in projects which are decided upon at Cabinet level (e.g. all projects costing more than 500 million euro and other politically controversial projects). One former Minister of Finance interviewed for this study states that she aimed to kill all large infrastructure projects with a negative CBA. Moreover, this former minister recalled that in her term no projects with a negative CBA which were discussed in the Cabinet were approved.

Secondly, the Minister of Transport and regional politicians use the CBA to convince each other. In the Netherlands, the Minister of Transport has two meetings each year with regional politicians in which they discuss the mutual ambitions of a region. The minister regularly uses a negative CBA as an argument for not funding a project in the region during these negotiations. It is interesting to note that several respondents stated that a benefit-cost

ratio (BCR) of 0.5³ is the threshold for rail projects. According to the respondents, the rationale is that rail projects rarely have a BCR higher than 1 and using a threshold of $BCR > 1$ would imply that no rail projects will be built which is regarded as undesirable. A low BCR can also be used by a minister as an argument for ordering the region to optimize the project in terms of societal costs and benefits. Moreover, regional politicians use positive CBAs to persuade the minister to invest in a project in their region.

Thirdly, the Minister of Transport and MPs use the CBA to convince each other. When the Minister is trying to gain a majority vote in Parliament for a project, a positive CBA can be an appealing argument.

Fourthly, the MPs who are spokesmen for infrastructure use a positive CBA to convince MPs from their own party to allow them to support this project during a debate. Also MPs use a positive CBA as an argument for convincing MPs from other parties.

Fifthly, MPs in particular use the CBA results for verifying the claims of stakeholders. One politician states that she uses CBA to verify the correctness of arguments brought forward by lobbyists. This politician experiences that some 'lobby projects' will stay on the political agenda until they are built. According to this politician, a negative CBA can provide her with arguments to prevent or delay such projects.

Symbolic use of CBA

Politicians also argue that they use CBA for symbolic purposes. One politician states that Dutch citizens like technocratic politicians, which was an incentive for her to emphasize that she favored decisions in line with CBAs.

From the interviews with civil servants it can be seen that one executive uses CBA as a means for depoliticizing the political debate. A civil servant explains that one of her tasks was generating a set of rational arguments supporting the—in her words—'irrational wishes of the executive'. The CBA was one of the arguments included in this 'set of rational arguments'. The civil servant explains that politicians generally have an a priori positive or negative attitude towards certain projects. The challenge is to produce a set of rational arguments which supports all of the executive's preferred decisions in a consistent way which makes it difficult for the political opposition to challenge the consistency of the executive's decisions during a debate. The civil servant argues that inconsistencies in argumentation can force an executive into revealing her real (irrational) argument for (not) supporting a project, which is an unwelcome situation since, in general, rational arguments are more convincing than emotional arguments.

A third type of symbolic use of CBA identified in this study is that, through carrying out CBAs, the government can signal that they seriously intend to pursue stated goals and indicate to the population affected by a transport project that their problems and concerns are taken seriously. Three respondents (two politicians and one civil servant) state that if the government wanted to construct a road in the 1960s and 1970s, they constructed a road without taking complaints of citizens seriously. People were not sufficiently aware of their rights and the possibility of influencing the decision-making process through protests, etc. However, during the 1970s, the a priori authority of public institutions crumbled away. Citizens demanded public institutions to justify their actions. According to these three respondents, instruments such as the CBA and the EIA do not necessarily lead to different

³ In Dutch practice, a BCR of 0.5 implies that negative societal effects (for instance, construction costs and noise pollution) are two times larger than the positive societal effects.

decisions, but lead to more satisfaction for the citizens, since it appears that the government has looked very carefully at how the project will affect them and they have taken this into consideration. Hence, CBA may increase the credibility and acceptability of political decisions among the population.

Solutions for enhancing the use of CBA when forming an opinion

In the interviews, politicians were asked to come up with solutions to enhance the extent to which they use CBA in forming judgments. Since, MPs predominantly mentioned solutions for rectifying the two most important barriers for their use of CBA—these being ‘late publication of CBA reports’ and ‘lack of trust in CBA’s impartiality’—these solutions will be discussed at length in this section. No solutions were discussed for barrier 2: ‘Politicians prefer forming their opinion based on conversations rather than on reading reports’ and barrier 7: ‘Politicians care less about the social profitability of a project when there is enough money’ because politicians did not seem to regard these as barriers that should or even could be rectified at all. Politicians stated that barrier 1: ‘the process of forming an opinion is trivial’ is higher when CBAs are carried out in the final stage of the decision-making process, since it is possible that politicians have already made up their minds about the desirability of the project. When CBAs are carried out in the conceptual phase of the decision-making process, it is more likely that actors will not yet have a definitive viewpoint regarding the project and in this case CBA can have more effect.

Safeguard the early publication of CBA reports

The solution for the late publication of CBAs that the respondents mentioned seems to be relatively straightforward at first glance: ‘just publish the CBA one or two months before the debate’. However, executives and civil servants mention four reasons why it is difficult to avoid a late publication. Firstly, a controversy around the (interpretation of the) CBA can delay its publication. Generally, a CBA is only published when civil servants and/or executives have reached a consensus about the CBA’s quality or the way CBA results should be interpreted. A second cause for a delayed publication is that the Cabinet has not decided upon the project yet. As explained, some projects are decided upon at Cabinet level and when it is still uncertain whether the Cabinet will approve or reject the project, the CBA—which will be used in the underpinning of the Cabinet’s decision—will not be published. According to one civil servant a CBA which is published before the Cabinet has reached consensus can be an unguided missile, since MPs and journalists can ask the minister for a response on the CBA, but it is difficult for the minister to give an answer when there is not yet a consensus in the Cabinet. This civil servant states that: ‘if you like a controlled decision-making process, you never send a CBA before a Cabinet decision. If you like an uncontrolled decision-making process, you send the CBA to Parliament before the Cabinet has reached a consensus’. Thirdly, executives can have an interest in the late publication of CBA reports when the results do not (sufficiently) support their decision on a project. If executives want to approve a project and the CBA is negative, a late publication safeguards that MPs, stakeholders who oppose the project and journalists do not have the time to read the report carefully (and criticize it), which is to the executives’ advantage. A civil servant notes that it was almost a habit of one of the executives she served to delay the publication of reports with unwelcome results. A fourth cause is time

pressure in the process of constructing the CBA. CBA is an end-of-pipe analysis, which implies that its completion can be delayed when an input study (e.g. cost estimations and estimations of transport effects) suffers from a delay.

Enhance the trust in CBA's impartiality

Politicians mention several solutions for enhancing their trust in CBA's impartiality. Firstly, early publication of CBAs safeguards that politicians (or their confidants) can verify a CBA's impartiality. One interviewed MP argues that the debate on the National Program for Infrastructure Projects should be delayed when the CBA is not published one month in advance. According to this MP, making this a requirement by law is the only means of eliminating any strategic late publication of CBAs from the system. Another group of politicians advocates enhancing the power and capacity of the Research Bureau for Government Spending—which is a small research agency of the Parliament (12 employees)—so they can verify the impartiality and quality of research reports and also carry out their own analyses. However, other politicians contest this solution, since they fear that magnifying the power and capacity of this agency will lead to an arms race with the ministry which they regard as undesirable. These politicians prefer an early publication which would give their confidants and civil society the chance to verify the report. One respondent advocates a middle position which is giving the Research Bureau for Government Spending the same mandate as the US Congressional Budget Office, enabling the Bureau to return research reports to the ministries when the timing, quality and impartiality of the report is questionable. Other politicians think that an institution which has no direct interest in CBA results should be the commissioner of CBAs. This resembles the Chilean practice where the institution that evaluates projects is a separate entity from the institutions promoting projects (Gomez-Lobo 2012). Several respondents state that their trust in CBA's impartiality improves when the transparency of CBA reports is enhanced, implying that analysts make it very clear which subjective/normative choices⁴ they have made in the CBA and to which extent these choices influence the results. This solution aims to iron out both barrier 3 (low trust in impartiality) and barrier 4 (contest normative premises). Moreover, one politician states that the certification of CBA analysts would enhance her trust in CBAs. Finally, one respondent notes that her trust in CBA's impartiality increases when, whilst reading the report, she feels that there was space for the analysts to bring in own observations, new alternatives and reflections on the problem definition etc.

It should be noted that many politicians emphasized that they did not believe that the implementation of their solutions would lead to CBAs being fully impartial. These politicians do not think that it is possible to rule out all tactical behavior, but they do believe that the current state of affairs can be improved.

⁴ For instance, the normative choice made in CBA that an equally large weight is attached to everybody's utility changes. An example of a subjective choice was already discussed by a respondent in "Politicians' use of CBA when forming their opinion" section (p. 8). A first model run produced extremely low values and a second model run produced extremely high values. The outcomes of the model runs were discussed and some decisions were taken. According to the respondent these decisions were affected by the travel experiences of the individuals: "an analyst who travels by train makes a different choice than a car driver who detests public transport".

General reflections on the solutions' feasibility

In the interviews, executives and civil servants were asked how they assessed the feasibility of the solutions discussed in “[Safeguard the early publication of CBA reports](#)” and “[Enhance the trust in CBA's impartiality](#)” section, since without their support it is difficult to remove the barriers. However, the majority of the executives and civil servants did not see it as their duty to remove the barriers. The ultimate goal seemed to be sending a letter to Parliament with properly underpinned decisions about infrastructure projects before the debate about the National Program for Infrastructure Projects starts. Executives and civil servants did not seem to feel that they had a responsibility to inform MPs about the outcomes of research projects as early as possible in order to optimize the possibility that they would use this information when making their judgments about the desirability of a project. They regard Parliament as being primarily the institution which should control the (underpinning of the) executives' decisions.⁵ Executives and civil servants acknowledge that in contemporary politics MPs can act as co-decision makers,⁶ but they believe that it's MPs' own responsibility to search for knowledge when they wish to form their opinion.

Moreover, some executives and civil servants argued that it is Parliament's own fault if they decide to proceed with the debate when they feel that there was not enough time to read, process and verify all relevant information referring to the right of the Parliament to delay a debate. Why do MPs not use this right and delay the debate? Interviewed MPs clarify that a debate can only be delayed when a majority in Parliament supports a delay and the MPs from the incumbent parties generally will avoid a delay if they—or the executives—prefer to make decisions during the debate.

An interesting result from this study is that, on the one hand, MPs endorse that the late publication of a CBA significantly affects the extent to which the CBA results can be used in forming an opinion but, on the other hand, they make statements which contradict that late publication is a problem which should be solved. Several executives and civil servants qualified the strategic timing of the publication of research reports as ‘part of the game’ and ‘clever tactics’. It is even more interesting that some MPs who complain about the strategic timing of the publication of research reports at the same time argue that this is something MPs should accept and that people who ‘cannot deal with it’ should look for a different job. Moreover, both executives and MPs defend the legitimacy of the practice that executives deliberately delay publication by arguing that MPs also try to surprise the executives with publishing reports very close to a debate. One executive claims that MPs who complain about the delayed publication are hypocrites, since they would do the same thing in their role as executive.

Discussion

One key observation about this study is that politicians will not necessarily use CBA when forming their opinion as there are various barriers for such use. The majority of the politicians was not able to mention a case in which a CBA changed their viewpoint about a project's desirability from positive to negative or vice versa. This result does not

⁵ Note that it is questionable whether Parliament can fulfil its controlling function when a CBA report is sent to Parliament one working day before the debate.

⁶ In Dutch practice, party leaders of the incumbent parties and executives are in close contact. Generally they have a meeting every Thursday.

necessarily imply that CBA has a marginal influence on the Dutch planning and decision-making process for transport projects, since there is evidence in the literature that civil servants use CBAs to optimize infrastructure projects in the early phases of the planning process (e.g. Eliasson and Lundberg 2012; Mouter et al. 2013b).

It is likely that the barriers identified in this study help to explain results of previous studies (e.g. Eliasson and Lundberg 2012; Nyborg 1998; Sager and Ravlum 2005), which found no clear evidence that CBA results affect politicians' opinions, but did find evidence for opportunistic and symbolic use of CBA. Hence, the identification of the seven barriers is probably the most important contribution of this study to the existing literature.⁷ It goes without saying that it is interesting to scrutinize the generalizability of this result to other countries applying CBA in further research. Are the identified barriers a 'Dutch disease' or are these barriers also experienced in other practices? And, if the barriers are not experienced in other practices, how did these practices rectify the barriers? Moreover, further research may investigate the merits of the proposed solutions by politicians for enhancing their trust in the CBA's impartiality and compare these solutions with other solutions proposed in the literature (e.g. van Wee 2015 proposes to develop a code of conduct for CBA clients to enhance the trust in CBAs).

A practical recommendation resulting from this study for Dutch and international practitioners and scholars who aspire enhancing the extent to which politicians use CBA when forming their opinion—and face similar barriers as identified in this study—is finding solutions for improving the institutional design of CBA to safeguard the early publication of CBA and the trust in CBA's impartiality instead of allocating resources to research areas which are widely studied at present (e.g. Value of Time, Value of Statistical Life, improvement of transport models). None of the politicians argued that they would assign more value to CBA if, for example, the Value of Time was calculated in a more sophisticated way.

An important lesson for international practitioners and scholars which can be derived from this study is that many Dutch MPs believe that CBAs are manipulated or implicitly influenced despite the fact that CBAs are reviewed with second opinions. The primary function of the second opinions seems to be safeguarding executives' trust in the quality and impartiality of CBA. When practitioners aspire to improve the perceived impartiality of CBAs among MPs, it is recommended to ensure an early publication of CBAs which enables confidants of MP's to verify the CBA. MP's argue that there is enough time for verification when CBAs are published 1 month before the debate on the National Program for Infrastructure Projects. However, it is recommended that the CBA is disclosed to MPs even earlier, as several MPs argue that, in general, changing a political standpoint is a gradual process. Further research may investigate how much time the politicians need on average to fully digest results of a CBA.

Politicians argued that CBA analysts should make it much clearer which subjective/normative choices were made in the CBA to iron out the barrier: 'politicians disagree with the normative choices made in CBA'.⁸ These statements imply that politicians are aware of the fact that CBA is not a neutral, objective or value-free instrument which is well-established in academic literature (e.g. Bromley 1990; Driesen 2006; Nyborg 2014). Moreover, it can be argued that for these politicians it is not even desirable to use a CBA,

⁷ Note that Nyborg (1998) and Sager and Ravlum (2005) also touched upon the following barriers: 'when there is plenty of money politicians care less about a project's social profitability', 'politicians disagree with the normative choice made in CBA' and 'politicians think that CBA's explanatory power is limited.'

⁸ As discussed politicians state that a side benefit of this solution is that it enhances their trust in CBA.

since it brings them further away from (dis)approving projects which (don't) coincide with their worldview. From a democratic perspective it can be argued that it is desirable to provide politicians disagreeing with CBA's normative premises with alternative information to give politicians with diverging ethical views the same opportunity to make a well-founded judgment about the desirability of policy options. Partly, it is possible to democratize CBA through what can be called 'moral sensitivity analyses'. More specifically, when the heterogeneity in politicians' attitudes towards normative premises in CBA-methodology is established⁹ one can identify the extent to which diverging sets of normative preferences lead to different CBA scores. Although moral sensitivity analyses would definitely enhance the usefulness of CBA in a democracy, it is still possible that politicians assign value to other ethical considerations which are excluded in a CBA (see van Wee 2012 for an overview).

Acknowledgements The author wishes to thank three anonymous reviewers for their useful comments and Jan Anne Annema for verifying the reliability of 15 interviews.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

- Albaek, E.: Between knowledge and power: utilization of social science in public policy making. *Policy Sci.* **28**, 79–100 (1995)
- Amara, N., Ouimet, M., Landry, R.: New evidence on instrumental, conceptual, and symbolic utilization of university research in governmental agencies. *Sci. Commun.* **26**(1), 75–106 (2004)
- Beyer, J., Trice, H.: The utilization process. A conceptual framework and synthesis of empirical findings. *Adm. Sci. Q.* **27**(4), 591–622 (1982)
- Bromley, D.W.: The ideology of efficiency: searching for a theory of policy analysis. *J. Environ. Econ. Manag.* **19**, 86–107 (1990)
- Driesen, D.M.: Is Cost–Benefit Analysis Neutral?. Syracuse University College of Law, New York (2006)
- Eliasson, J., Lundberg, M.: Do cost–benefit analyses influence transport investment decisions? Experiences from the Swedish transport investment plan 2010–2021. *Trans. Rev.* **32**(1), 29–48 (2012)
- Eliasson, J., Börjesson, M., Odeck, J., Welde, M.: Does benefit-cost efficiency influence transport investment decisions? *J. Transp. Econ. Policy* **49**(3), 377–396 (2015)
- Feldman, M.S., March, J.G.: Information in organizations as signal and symbol. *Adm. Sci. Q.* **26**, 171–186 (1981)
- Gomez-Lobo, A.: Institutional safeguards for cost benefit analysis: lessons from the Chilean national investment system. *J. Cost Benefit Anal.* **3**, 1–30 (2012)
- Knorr, K.D.: Policy makers' use of social science knowledge: symbolic or instrumental? In: Weiss, Carol (ed.) *Using Science Research in Public Policy Making*, pp. 165–182. Lexington Books, Lexington (1977)
- Lindblom, C.E.: *The Intelligence of Democracy*. Free Press, New York (1965)
- Mackie, P.J., Worsley, T., Eliasson, J.: Transport appraisal revisited. *Res. Transp. Econ.* **47**, 3–18 (2014)
- Mackie, P., Preston, J.: Twenty-one sources of error and bias in transport project appraisal. *Transp. Policy* **5**(1), 1–7 (1998)
- Ministry of Infrastructure and the Environment: *Manual for Exploration Phase Spatial-Infrastructure Projects* (In Dutch: *Handreiking MIRT-Verkenning*). The Hague (2010)

⁹ Examples of normative choices in CBA are the rate at which the well-being of future generations should be traded off against the well-being of present generations (social discount rate), the dimensions on which the Value of Time should be differentiated (e.g. regions and income groups) and the specification of the social welfare function.

- Mouter, N.: Cost-Benefit Analysis in Practice. Thesis. Delft University of Technology (2014)
- Mouter, N., Annema, J.A., van Wee, B.: Ranking the substantive problems in the Dutch cost–benefit analysis practice. *Transp. Res. Part A* **49**, 241–255 (2013a)
- Mouter, N., Annema, J.A., van Wee, B.: Attitudes towards the role of cost–benefit analysis in the decision-making process for spatial-infrastructure projects: a Dutch case study. *Transp. Res. Part A* **58**, 1–18 (2013b)
- Naess, P., Andersen, J., Nicolaisen, M.S., Strand, A.: Transport modelling in the context of the predict and provide paradigm. *Eur. J. Transp. Infrastruct. Res.* **14**(2), 102–121 (2014)
- Nyborg, K.: Some Norwegian politicians' use of cost–benefit analysis. *Public Choice* **95**, 381–401 (1998)
- Nyborg, K.: Project Evaluation with democratic decision-making: What does cost–benefit analysis really measure? *Ecol. Econ.* **106**, 124–131 (2014)
- Romijn, G., Renes, G.: Dutch General CBA Guideline. Centraal Planbureau en Planbureau voor de Leefomgeving (2013)
- Sager, T., Ravlum, I.A.: The political relevance of planners' analysis: the case of a parliamentary standing committee. *Plan. Theory* **4**(1), 33–65 (2005)
- Van Wee, B.: How suitable is CBA for the ex-ante evaluation of transport projects and policies? A discussion from the perspective of ethics. *Transp. Policy* **19**(1), 1–7 (2012)
- Van Wee, B.: Towards a code of conduct for clients of research? *Transp. Rev.* **35**(1), 1–3 (2015)
- Weiss, C.H.: Research for policy's sake: the enlightenment function of social research. *Policy Anal.* **3**, 521–545 (1977)

Niek Mouter is a postdoctoral researcher at TU Delft's Transport and Logistics Group. His current research focuses on scrutinizing fundamental assumptions implicit in CBA and improving CBA's usefulness for politicians. He has published papers in *Transportation Research Part A*, *Transportation* and *Transport Policy*.